SAS Programs used to generate retrieval plans
George McCabe
2/13/08

Del Monte

```
PROC IMPORT OUT= WORK.A1
   DATAFILE=
"C:\Ageorge\Cstat\PetFoods\DelMonte\Data\DelMonte2008Feb8.XLS"
   DBMS=EXCEL REPLACE; SHEET="'Pallets on Hold$'"; GETNAMES=YES;
MIXED=NO;
   SCANTEXT=YES; USEDATE=YES; SCANTIME=YES;
RUN;
proc contents data=a1; run; proc print data=a1; run;

libname xxx 'C:\Ageorge\Cstat\PetFoods\DelMonte\Data';
data xxx.SKUDate; set a1;
run;


data aproduct; set a1; if totalcasesonhold gt 0;
ucp=int(TotalPallets)*UnitsPerCase;
selectcasesperpallet=int(500/ucp)+1;
proc print data=a2; var SKU ProductDescription Size LotCode
  ucp selectcasesperpallet;
run;
*C:/AGEORGE/CSTAT/PETFOODS/DELMONTE/DelMonte2008Feb8.sas;

*February 8, 2008;

*IMPORT DelMonte2008Feb6.xls as a1;

proc contents data=a1; run;
*51 records and 14 variables;
/*
CasesPerPallet
FontanaPallets IndependencePallets  MoranPallets
FontanaTotalHold IndependenceTotalHold MoranTotalHold  (Cases on Hold)
LotCode (MDate)
SKU (PCode)
UnitsPerCase
*/

*We want 500 units per SKU date (LotCode and SKU combination);
*distributed over the cities (1-3) proportionately;



data a3; set a2; keep SKU ProductDescription Size LotCode
  selectcasesperpallet;
run;
```

Appendix A to the
McCabe Decl.

Dockets.Justia.com

```
libname xxx 'C:\Ageorge\Cstat\PetFoods\DelMonte\Data';
proc contents data=xxx.SKUDate; run;
proc print data=a1; run;
data aproduct; set xxx.SKUDate; if totalcasesonhold gt 0;
   if TotalPallets ge 1 then do ucp=int(TotalPallets)*UnitsPerCase;
      selectcasesperpallet=int(500/ucp)+1; end;
   if TotalPallets lt 1 then do ucp=UnitsPerCase;
      selectcasesperpallet=int(500/ucp)+1; end;
proc print data=aproduct; var SKU ProductDescription Size LotCode
  ucp selectcasesperpallet;
run;

data selected; set aproduct; keep SKU ProductDescription Size LotCode
  selectcasesperpallet;
run;

proc sort data=selected; by SKU;
PROC EXPORT DATA= WORK.selected
   OUTFILE=
"C:\Ageorge\Cstat\PetFoods\RetrievalPlans2008_02_11\DelMonteSelectionOf
Cases2008_02_11.xls"
   DBMS=EXCEL REPLACE; SHEET="CasesPerPallet"; RUN;

data bproduct; set aproduct;
excess=TotalCasesOnHold-int(TotalPallets)*CasesPerPallet;
if excess ge selectcasesperpallet then last=selectcasesperpallet;
   else last=excess;
selectedcases=int(TotalPallets)*selectcasesperpallet + last;
selectedunits=selectedcases*UnitsPerCase;
units=TotalCasesOnHold*UnitsPerCase;
cases=TotalCasesOnHold;
proc print data=bproduct; run;

proc univariate data=bproduct; var units cases selectedunits
selectedcases;
run;
```

Hills

```
PROC IMPORT OUT= WORK.a1 DATAFILE=
"C:\Ageorge\Cstat\PetFoods\Hills\Data\HillsWorkingFileCans.xls"
DBMS=EXCEL
   REPLACE; SHEET="Sheet1$"; GETNAMES=YES; MIXED=Yes; SCANTEXT=YES;
USEDATE=YES; SCANTIME=YES; RUN;
proc contents data=a1; run; proc print data=a1; run;
data a2; set a1;
   percase=units/cases;
   casepp=cases/pallets;
```

```
proc sort data=a2; by cases;
proc print data=a2; run;

libname xxx 'C:\Ageorge\Cstat\PetFoods\Hills\Data';
data xxx.SKUDate; set a2;
proc contents data=xxx.SKUDate; run;



libname xxx 'C:\Ageorge\Cstat\PetFoods\Hills\Data';
data a1; set xxx.SKUDate;
proc contents data=xxx.SKUDate; run;

data aproduct; set xxx.SKUDate; if units gt 0;
   unitspercasepallet=int(pallets)*percase;
   if int(pallets) gt 0 then
selectcasesperpallet=int(500/unitspercasepallet)+1;
   if int(pallets) eq 0 then selectcasesperpallet=int(500/percase)+1;
   if cases lt selectcasesperpallet then selectcasesperpallet=cases;
proc print data=aproduct; run;

proc sort data=aproduct; by SKU;
proc print data=aproduct; run;

data selected; set aproduct; keep SKU DateCode ProductName
selectcasesperpallet;
proc sort data=selected; by productcode;
PROC EXPORT DATA= WORK.selected
   OUTFILE=
"C:\Ageorge\Cstat\PetFoods\RetrievalPlans2008_02_11\HillsSelectionOfCas
es2008_02_11.xls"
   DBMS=EXCEL REPLACE; SHEET="CasesPerPallet"; RUN;

data bproduct; set aproduct;
excess=cases-int(pallets)*casepp;
if excess ge selectcasesperpallet then last=selectcasesperpallet;
   else last=excess;
selectedcases=int(pallets)*selectcasesperpallet + last;
selectedunits=selectedcases*percase;
proc print data=bproduct; run;

proc univariate data=bproduct; var units cases pallets selectedunits
selectedcases;
run;



libname xxx 'C:\Ageorge\Cstat\PetFoods\Hills\Data';
data a1; set xxx.SKUDate;
proc contents data=xxx.SKUDate; run;

data aproduct; set xxx.SKUDate; if units gt 0;
   unitspercasepallet=int(pallets)*percase;
   if int(pallets) gt 0 then
selectcasesperpallet=int(500/unitspercasepallet)+1;
   if int(pallets) eq 0 then selectcasesperpallet=int(500/percase)+1;
   if cases lt selectcasesperpallet then selectcasesperpallet=cases;
proc print data=aproduct; run;

proc sort data=aproduct; by SKU;
proc print data=aproduct; run;

data selected; set aproduct; keep SKU DateCode ProductName
selectcasesperpallet;
proc sort data=selected; by productcode;
PROC EXPORT DATA= WORK.selected
   OUTFILE=
"C:\Ageorge\Cstat\PetFoods\RetrievalPlans2008_02_11\HillsSelectionOfCas
es2008_02_11.xls"
   DBMS=EXCEL REPLACE; SHEET="CasesPerPallet"; RUN;

data bproduct; set aproduct;
excess=cases-int(pallets)*casepp;
if excess ge selectcasesperpallet then last=selectcasesperpallet;
   else last=excess;
selectedcases=int(pallets)*selectcasesperpallet + last;
selectedunits=selectedcases*percase;
proc print data=bproduct; run;

proc univariate data=bproduct; var units cases pallets selectedunits
selectedcases;
run;



libname xxx 'C:\Ageorge\Cstat\PetFoods\Hills\Data';
data a1; set xxx.SKUDateBags;
proc contents data=xxx.SKUDateBags; run;

data aproduct; set xxx.SKUDateBags;
   selectbagsperpallet=int(125/pallets)+1;
proc print data=aproduct; run;


data selected; set aproduct; keep SKU Date_Code Hill_s_Product_Name
selectbagsperpallet;
PROC EXPORT DATA= WORK.selected
   OUTFILE=
"C:\Ageorge\Cstat\PetFoods\RetrievalPlans2008_02_11\HillsBagsSelectionO
fCases2008_02_11.xls"
   DBMS=EXCEL REPLACE; SHEET="CasesPerPallet"; RUN;

data bproduct; set aproduct;
excess=bags-pallets*bagsperpallet;
if excess ge selectbagsperpallet then last=selectbagsperpallet;
   else last=excess;
selectedbags=pallets*selectbagsperpallet + last;
proc print data=bproduct; run;

proc univariate data=bproduct; var bags selectedbags;
run;
```

Iams

```
*C:/AGEORGE/CSTAT/PETFOODS/IAMS/Iams2008Feb9.sas;
*SEE CORRECTION BELOW;

*IMPORT BEKINSINVENTORYDETAIL.xls (sorted) as a1a;

proc contents data=a1a; run;
*5297 observations  5305 with dummy records;
/*
BrandCode (PCode), ControlGroup(MDate), Description (ProductName),
Location (Pallet_ID), Quantity (CasesPP)
*/

*See 2/508 email from Laura Sanom;
*She forwarded Tom Robinson's email with the following;
*changes to be made to the file;
*All variety packs and multi packs have;
*units per case that are not evident from the description;
*Example IAMS DG PCH MX 1x127.2z VAR PK;
*that I imterpreted to be 1 unit per case;
*is actually 72 units per case;
*IAMS PPY1x79.2Z CN MLTPK W/BF&CKN;
*is 6 units per case!!!;
*INSTEAD of the code below;
*If index(ProductName, '1X')then percase=1;
*merge the Excel file;
*IamsDoubleCheckQuantities2008Feb6.xls as a1b;

*Change the vriable names so that they are similar to the Nestle Purina
programs;
data a1c; set a1a;
if location='ABCDEFG' then delete;
PCode=BrandCode;
MDate=ControlGroup;
ProductName=Description;
Pallet_ID=Location;
CasesPP=Quantity;
drop brandcode controlgroup description location quantity;
proc univariate data=a1c; var casespp; run;
*For the 5,297 pallets there are 593,293 total Cases ;
proc sort data=a1c; by pallet_id;
proc freq data=a1c; tables pallet_id; run;

proc sort data=a1c; by pcode mdate ;
proc freq data=a1c noprint; tables pallet_id/out=a1000c;
by pcode mdate;
run;
data a1000d; set a1000c; if count gt 1;
proc sort data=a1000d; by pallet_id;
proc print data=a1000d;
run;
*FEBRUARY 7, 2008 noticed there are duplicate and in;
*some cases triplicate records;
```

```
*i.e. same Product Code and M Date Combination;
*and more than one record for a pallet id;
*2/8/08 email from Tom Robinson explained that there is an;
*overflow of product and they will not have a problem;
*selecting the items;
*I have decided to add a column to the excel sheet;
*that we send to them that indicates how many cases;
*there are in a given pallet;
*In that way if one pallet has 4 and another has 80;
*they will be selecting 1 case from the pallet with 4;
*and 2 from the pallet with 80;
proc sort data=a1c; by pcode mdate pallet_id casespp;
data a100c; set a1c; by pcode mdate pallet_id casespp;
if first.pallet_id = last.pallet_id;
proc print data=a100c; run;
*5181 have one record per pallet id per SKU date;
*58 have 2 or 3 additional records;
proc freq data=a1c noprint; tables PCode*Mdate/out=a1d;
run;
proc print data=a1d; run;
*There are 367 unique brandcode (PCode) and controlgroup (MDate)
combinations;
proc sort data=a1; by pcode mdate;
run;
**********************;
*IMPORT IamsDoubleCheckQuantities2008Feb6.xls as a1b;
proc contents data=a1b; run;
*92 observations for product codes;
*BrandCode,ProductName,UnitsPerCase;

data a1e; set a1b;
PCode=BrandCode;
PerCase=UnitsPerCase;
drop BrandCode; Drop UnitsPerCase;
proc sort data=a1e; by pcode;
proc print data=a1e;
run;


data a1;
merge a1c a1e; by pcode;
UnitsPerPallet=CasesPP*PerCase;
proc sort data=a1; by pcode mdate;
proc print data=a1; run;
proc univariate data=a1; var CasesPP unitsperpallet; run;
*For the 5,297 pallets there are    593,293 Cases;
*For the 5,297 pallets there are 18,478,698 units;




data a2; set a1; by pcode mdate;
if first.mdate;
proc print data=a2; run;
*There are 367 SKU dates;

data a2a(keep= pcode mdate SKUDate);
```

```
set a2;
SKUDate=_N_;
proc print data=a2a;
proc sort data=a2a; by pcode mdate;
run;


data a3;
merge a1 a2a; by pcode mdate;
proc freq data=a3; tables percase; run;
*Units per case:  6, 12, 24, 72;
options pageno=1;
title 'IAMS';
proc sort data=a3; by pcode mdate;
proc univariate noprint data=a3;
var unitsperpallet;
by pcode mdate;
output out=a3a sum=TotalUnits;
run;
proc print data=a3a;
run;
*TotalUnits is the total for each SKU date;



proc freq data=a3; tables pcode*mdate/out=a3b;
proc print data=a3b; run;

data a3c(keep=PCode MDate TotalPallets);
set a3b;
TotalPallets=count;
*TotalPallets is total pallets per SKU date;
proc sort data=a3c; by pcode mdate;
proc print data=a3c; run;
proc univariate data=a3c; var totalpallets;
run;

proc sort data=a3a; by pcode mdate; run;

data a3d;
merge a3a a3c; by pcode mdate;
proc print data=a3d; run;
options pageno=1;
proc univariate data=a3d;
var totalpallets totalunits; run;
proc print data=a3d; run;
*Total Units = 18,478,698;
*Total Pallets = 5,297;

proc sort data=a3; by pcode mdate;
proc sort data=a3d; by pcode mdate;
run;

data a4;
merge a3 a3d; by pcode mdate;
TotalCases=CasesPP*TotalPallets;
*TotalCases per SKU date;
```

```
proc print data=a4;
run;
proc sort data=a4; by skudate; run;

data a4000; set a4; by skudate;
Retain FirstPalletCases flag;
if first.skudate then do;
      FirstPalletCases=.; flag=0;
end;
if first.skudate then firstpalletcases=casespp;
if casespp ne firstpalletcases then flag=1;
proc print data=a4000; where flag=1;
var pallet_id casespp firstpalletcases flag; run;



libname sd2 'j:/ageorge/cstat/petfoods/iams';
data sd2.Iams;
set a4;
label TotalPallets='Total Pallets/SKU Date';
label TotalUnits='Total Units/SKU Date';
label TotalCases='Total Cases/SKU Date';
label PerCase='Units Per Case';
label SKUDate='(PCode, MDate) Combination';
label CasesPP='Cases Per Pallet';
label PCode='Product Code';
label MDate='Manufacturing Date';
proc contents data=sd2.iams;
run;


*C:/Ageorge/Cstat/PetFoods/Iams/SASPrograms/SelectCasesIams2008Feb6.sas
;

*February 6, 2008;
*Received an email from Tom Robinson via Laura with;
*corrections to number of units per case;
*REDO SD2.IAMS and results;

libname sd2 'j:/ageorge/cstat/petfoods/Iams';
title 'SD2.Iams';
proc contents data=sd2.Iams;
run;
proc freq data=sd2.iams; tables percase; run;
*5297 pallets;
*CasesPP MDate PCode Pallet_ID PerCase ProductName Units SKUDate
TotalPallets TotalUnits;
*PCode and MDate combination is SKU date;
*NOTE:  TotalPallets is total pallets per SKU date;
*TotalUnits is total units per SKU date;

data a1; set sd2.iams;
proc sort data=a1; by pcode mdate skudate;
proc print data=a1; var pcode mdate skudate totalpallets; run;

data a1a; set a1; by skudate;
if first.skudate;
```

```
proc freq data=a1a;
tables totalpallets;
run;
*There are 309 SKU dates with 1-25 pallets;
*There are  58 SKU dates with 26 or more pallets;

data a3; set sd2.Iams;
if totalpallets gt 25 then type='Pallets26_223';
if totalpallets le 25 then type='Pallets1_25';
proc sort data=a3; by pcode mdate;
options pageno=1;
title 'IAMS';
proc freq data=a3; tables ProductName; run;
proc print data=a3;
run;
*For the Pallets 1 to 25 we want to sample 2 cases per pallet and want
at least 500 units per SKU date;
*For the Pallets 26 to 230 we want to sample 1 case per pallet;

***************************************************;
*PALLETS 1 to 25;
data a3a; set a3;
if type='Pallets1_25';
proc sort data=a3a; by skudate casespp;
run;
proc print data=a3a; var skudate casespp totalpallets percase ; run;
*1969 pallets;

data a3b; set a3a; by skudate;
retain casepallet1-casepallet25 i;
array CasePallet(i) CasePallet1 - CasePallet25;
if first.skudate then do i=1 to 25;
      Casepallet=.;
end;
if first.skudate then i=1;
CasePallet=CasesPP;
i=i+1;
if last.skudate then output;
proc print data=a3b;
var skudate totalpallets percase casepallet1-casepallet25 i;
run;

data a3c; set a3b; by skudate;
Retain SelectUnits flag;
array CasePallet(i) CasePallet1 - CasePallet25;
array SelectCases(i) SelectCases1 - SelectCases25;
if first.skudate then do; SelectUnits=0; flag=0; end;
*All pallets seem to have the same number of units per case;
*SITUATION WHERE CASES PER PALLET GE 2;
if CasePallet1=1 then Flag=1;
if CasePallet1 ge 2 then TargetUnits=(2*PerCase*TotalPallets);
if TargetUnits lt 500 then do
      Flag=1;
      CasesNeeded=int(500/(percase*totalpallets))+1;
end;
if TargetUnits ge 500 then do i=1 to totalpallets;
      SelectCases=2; end;
```

```
if TargetUnits ge 500 then SelectUnits=TargetUnits;
proc print data=a3c; where flag=0;
var skudate flag targetunits selectunits CasesNeeded
      totalpallets percase casepallet1-casepallet25
      selectcases1-selectcases25;
run;
proc freq data=a3c; tables flag; run;
proc print data=a3c;
var skudate flag targetunits selectunits CasesNeeded
      totalpallets percase casepallet1-casepallet25
      ;
run;


*THERE ARE TWO SITUATIONS;
*CasesNeeded is less than number of cases in pallet 1;
*CasesNeeded is more than number of cases in pallet 1;

data a3d; set a3c;
if flag=1 and casesneeded le casepallet1;
array CasePallet(i) CasePallet1 - CasePallet25;
array SelectCases(i) SelectCases1 - SelectCases25;

if CasesNeeded le CasePallet1 then
do i=1 to totalpallets;
      SelectCases=CasesNeeded;
end;
if CasesNeeded le CasePallet1 then
      SelectUnits=CasesNeeded*PerCase*TotalPallets;

proc print data=a3d;
var skudate flag selectunits CasesNeeded
      totalpallets percase casepallet1-casepallet3
      Selectcases1-selectcases3;
run;
*****************************************;
data a3e; set a3c;
if flag=1 and casesneeded gt casepallet1;
retain selectcases1-selectcases25 SelectUnits CasesNeeded;
array CasePallet(i) CasePallet1 - CasePallet25;
array SelectCases(i) SelectCases1 - SelectCases25;

do i=1 to totalpallets;

  if casesneeded le casepallet then
      SelectCases=CasesNeeded;
  if casesneeded le casepallet then
      SelectUnits=SelectUnits+((CasesNeeded)*(PerCase));

if casesneeded gt casepallet then do;
      SelectUnits=SelectUnits+(CasePallet*Percase);
      SelectCases=CasePallet;

    if SelectUnits lt 500 then do;
            Remaining=500-selectunits;
            if totalpallets gt i then
              CasesNeeded=int(remaining/(percase*(totalpallets-i)))+1;
    end;
 end;
end;
proc print data=a3e;
var skudate flag selectunits CasesNeeded remaining
       totalpallets percase casepallet1-casepallet16
      Selectcases1-selectcases16 i  ;
run;


data a3f(keep=SKUdate TotalPallets PerCase CasesToSelect CasesPP
SelectUnits);
set a3c; if flag=0;
array SelectCases(i) SelectCases1-SelectCases25;
array CasePallet(i) CasePallet1-CasePallet25;
do i=1 to totalpallets;
      CasesToSelect=SelectCases;
      CasesPP=CasePallet;
      output;
end;
proc print data=a3f;
run;
*739 pallets;
data a3g(keep=SKUdate TotalPallets PerCase CasesToSelect CasesPP
SelectUnits);
set a3d;
array SelectCases(i) SelectCases1-SelectCases25;
array CasePallet(i) CasePallet1-CasePallet25;
do i=1 to totalpallets;
      CasesToSelect=SelectCases;
      CasesPP=CasePallet;
      output;
end;
proc print data=a3g;
run;
*753 pallets;
data a3h(keep=SKUdate TotalPallets PerCase CasesToSelect CasesPP
SelectUnits);
set a3e;
array SelectCases(i) SelectCases1-SelectCases25;
array CasePallet(i) CasePallet1-CasePallet25;
do i=1 to totalpallets;
      CasesToSelect=SelectCases;
      CasesPP=CasePallet;
      output;
end;
proc print data=a3h;
run;
*477 pallets;
*Total of 1696 pallets for type='Pallets1_25';

Options pageno=1;
title 'Iams ';
data a3i;
set a3f a3g a3h;
proc sort data=a3i; by skudate casespp;
proc print data=a3i;
```

```
run;

*************************************************;
*PALLETS 26 to 230;
*WE WOULD LIKE TO TAKE 1 CASE PER PALLET;
data a30a; set a3;
if type='Pallets26_223';
proc sort data=a30a; by skudate casespp;
run;
*3328 pallets;

data a30b; set a30a; by skudate;
retain casepallet1-casepallet223 i;
array CasePallet(i) CasePallet1 - CasePallet223;
if first.skudate then do i=1 to 223;
      Casepallet=.;
end;
if first.skudate then i=1;
CasePallet=CasesPP;
i=i+1;
if last.skudate then output;
proc print data=a30b;
var skudate totalpallets percase casepallet1-casepallet25;
run;
*58 SKU dates;

data a30c; set a30b; by skudate;
Retain SelectUnits flag;
array CasePallet(i) CasePallet1 - CasePallet223;
array SelectCases(i) SelectCases1 - SelectCases223;

if first.skudate then do; SelectUnits=0; flag=0; end;
*All pallets seem to have the same number of units per case;
TargetUnits=(1*PerCase*TotalPallets);
if TargetUnits lt 500 then do
      Flag=1;
      CasesNeeded=int(500/(percase*totalpallets))+1;
end;
if TargetUnits ge 500 then do
      SelectUnits=TargetUnits;
      do i=1 to totalpallets;
            SelectCases=1;
    end;
end;
proc freq data=a30c; tables flag; run;
proc print data=a30c;
var skudate flag targetunits selectunits CasesNeeded totalpallets
percase casepallet1-casepallet25;
run;
*21 out of the 58 have flags;
*37 out of the 58 are not flagged;
***********FLAG**************;
data a30d; set a30c; by skudate;
if flag=1 and casesneeded le casepallet1;
array CasePallet(i) CasePallet1 - CasePallet223;
array SelectCases(i) SelectCases1 - SelectCases223;
```

```
if CasesNeeded le CasePallet1 then
      do i=1 to totalpallets;
        SelectCases=CasesNeeded;
      end;
if CasesNeeded le CasePallet1 then
SelectUnits=CasesNeeded*PerCase*TotalPallets;
proc print data=a30d;
var skudate flag selectunits CasesNeeded  totalpallets percase
casepallet1-casepallet25;
run;
*11 out of the 21 flagged SKU dates;
****************FLAG************;
data a30e; set a30c;
if flag=1 and casesneeded gt casepallet1;
Retain SelectCases1-SelectCases223 SelectUnits CasesNeeded;
array CasePallet(i) CasePallet1 - CasePallet223;
array SelectCases(i) SelectCases1 - SelectCases223;
do i=1 to totalpallets;
 if CasesNeeded le CasePallet then SelectCases=CasesNeeded;
 if CasesNeeded le CasePallet then
      SelectUnits=SelectUnits+((CasesNeeded)*(PerCase));
 if CasesNeeded gt CasePallet then do;
    SelectCases=CasePallet;
      SelectUnits=SelectUnits+(CasePallet*PerCase);
      If SelectUnits lt 500 then do;
            Remaining=500-SelectUnits;
            If totalpallets gt 1 then
                  CasesNeeded=int(remaining/((perCase)*(TotalPallets-
i)))+1;
     end;
 end;
end;
proc print data=a30e;
var skudate flag selectunits casesneeded remaining totalpallets
      percase casepallet1-casepallet16 selectcases1-selectcases16;
      run;
*10 out of 21 flagged SKU Dates;


data a30f(keep=SKUdate TotalPallets PerCase CasesToSelect CasesPP
SelectUnits);
set a30c; if flag=0;
array SelectCases(i) SelectCases1-SelectCases223;
array CasePallet(i) CasePallet1-CasePallet223;
do i=1 to totalpallets;
      CasesToSelect=SelectCases;
      CasesPP=CasePallet;
      output;
end;
proc print data=a30f;
run;
*1984 pallets;
data a30g(keep=SKUdate TotalPallets PerCase CasesToSelect CasesPP
SelectUnits);
set a30d;
array SelectCases(i) SelectCases1-SelectCases223;
array CasePallet(i) CasePallet1-CasePallet223;
```

```
do i=1 to totalpallets;
      CasesToSelect=SelectCases;
      CasesPP=CasePallet;
      output;
end;
proc print data=a30g;
run;
*565 pallets;
data a30h(keep=SKUdate TotalPallets PerCase CasesToSelect CasesPP
SelectUnits);
set a30e;
array SelectCases(i) SelectCases1-SelectCases223;
array CasePallet(i) CasePallet1-CasePallet223;
do i=1 to totalpallets;
      CasesToSelect=SelectCases;
      CasesPP=CasePallet;
      output;
end;
proc print data=a30h;
run;
*779 pallets;
*Total of 3328 pallets for type='Pallets26_223';


Options pageno=1;
title 'Iams ';
data a30i;
set a30f a30g a30h;
proc sort data=a30i; by skudate casespp;
proc print data=a30i;
run;

******************************;
options pageno=1;
data a4;
set a3i a30i;
drop percase; drop totalpallets;
proc sort data=a4; by skudate casespp;
proc print data=a4;
run;

data a300(keep=skudate productname pcode mdate city pallet_id
      casespp percase totalpallets TotalUnits); set a3;
proc sort data=a300; by skudate casespp ;
proc print data=a300; run;

data a400;
merge a300 a4; by skudate casespp;
proc sort data=a400; by skudate pallet_id;
options pageno=1;
proc freq data=a400; tables CasesToSelect; run;

proc sort data=a400; by pcode mdate pallet_id;
proc print data=a400;
run;
```

```
*****EXPORT A400 as EXCEL File;
proc univariate data=a400;
var casestoselect; run;

proc sort data=a400; by skudate; run;
data a500; set a400; by skudate;
if first.skudate;
proc print data=a500; run;
options pageno=1;
proc univariate data=a500;
var SelectUnits ; run;
proc univariate data=a500;
var totalpallets totalunits ; run;
*We are selecting 12,140 cases out of 593,293 total cases;
*and 302,928 units out of 18,478,698 total units;
```

Menu

```
PROC IMPORT OUT= WORK.a1 DATAFILE=
"C:\Ageorge\Cstat\PetFoods\MenuFoods\Data\SKUDate.xls" DBMS=EXCEL
   REPLACE; SHEET="Sheet1$"; GETNAMES=YES; MIXED=NO; SCANTEXT=YES;
USEDATE=YES; SCANTIME=YES; RUN;
*proc contents data=a1; run; *proc print data=a1; run;
data a1; set a1; nn=_n_;
   *if AUnits gt '0' then AUnits='NUM';
   if nn le 8 then delete;
   drop nn;
proc freq data=a1; tables AUnits Units; run;
data a2; set a1;
   if index(product, '24x') then percase=24;
   if index(product, '12x') then percase=12;
   if index(product, '6x')  then percase=6;
   if index(product, 'x3')  then do size=3; casepp=220; end;
   if index(product, 'x3')*index(product, 'Pouch') then do size=3;
casepp=160; end;
   if index(product, 'x3')*index(product, 'Pch') then do size=3;
casepp=160; end;
   if index(product, 'x85')  then do size=3; casepp=220; end;
   if index(product, 'x85')*index(product, 'Pouch') then do size=3;
casepp=160; end;
   if index(product, 'x85')*index(product, 'Pch') then do size=3;
casepp=160; end;
   if index(product, 'x5.3')   then do size=5.3; casepp=120; end;
   if index(product, 'x150')   then do size=5.3; casepp=120; end;
   if index(product, 'x5.5')   then do size=5.5; casepp=126; end;
   if index(product, 'x156')   then do size=5.5; casepp=126; end;
   if index(product, 'x6')     then do size=6; casepp=126; end;
   if index(product, 'x170')   then do size=6; casepp=126; end;
   if index(product, 'x6.5')   then do size=6.5; casepp=170; end;
   if index(product, 'x13.2')  then do size=13.2; casepp=170; end;
   if index(product, 'x22')    then do size=22; casepp=112; end;
   if index(product, 'x624')   then do size=22; casepp=112; end;
   if index(product, 'x12.5')  then do size=12.5; casepp=170; end;
   if index(product, 'x53')    then do size=5.3; casepp=120; end;
   if index(product, 'x14')    then do size=14; casepp=170; end;
   if index(product, 'x13')     then do size=13; casepp=170; end;
   if index(product, 'x132')    then do size=13.2; casepp=170; end;
   if (pcode eq 'GAXC1A22240') then do size=13; casepp=180; percase=12;
end;
   if (pcode eq 'GAXL1B22240') then do size=22; casepp=112; percase=12;
end;
   if index(product, '2x12x')  then do percase=24; end;
   if index(product, '3x24x')  then do percase=72; end;
   if index(product, '4x12x')  then do percase=48; end;
   cases=int(units/percase);
   pallets=int(cases/casepp);
proc sort data=a2; by cases;
proc print data=a2; run;
libname xxx 'C:\Ageorge\Cstat\PetFoods\MenuFoods\Data';
data xxx.SKUDate; set a2;
proc contents data=xxx.SKUDate; run;



libname xxx 'C:\Ageorge\Cstat\PetFoods\MenuFoods\Data';
proc contents data=xxx.SKUDate; run;

data aproduct; set xxx.SKUDate; if units gt 0; drop Aunits;
   unitspercasepallet=pallets*percase;
   if pallets gt 0 then
selectcasesperpallet=int(500/unitspercasepallet)+1;
   if pallets eq 0 then selectcasesperpallet=int(500/percase)+1;
proc print data=aproduct; run;

proc sort data=aproduct; by pallets;
proc print data=aproduct; run;

data selected; set aproduct; keep mdate pcode product
selectcasesperpallet;
proc sort data=selected; by mdate productcode;
PROC EXPORT DATA= WORK.selected
   OUTFILE=
"C:\Ageorge\Cstat\PetFoods\RetrievalPlans2008_02_11\MenuSelectionOfCase
s2008_02_11.xls"
   DBMS=EXCEL REPLACE; SHEET="CasesPerPallet"; RUN;

data bproduct; set aproduct;
excess=cases-pallets*casepp;
if excess ge selectcasesperpallet then last=selectcasesperpallet;
   else last=excess;
selectedcases=pallets*selectcasesperpallet + last;
selectedunits=selectedcases*percase;
proc print data=bproduct; run;

proc univariate data=bproduct; var units cases pallets selectedunits
selectedcases;
run;
```

NestlePurina

```
*C:/Ageorge/Cstat/PetFoods/NestlePurina/SASPrograms/NestleSKUDate.sas;

*January 30, 2008;

*IMPORT TEMPLATE.XLS from c:/ageorge/cstat/petfoods/nestlepurina/data
as a1;

title 'Nestle Purina';
proc contents data=a1; run;
*2109 observations;
*CasesPP  cases per pallet;
*City: Davenport, Oklahoma City, Crete, Dunkirk, Atlanta,
Mechanicsburg;
*File:  ALPO or Mighty (Mighty Dog);
*MDate:  Manufacturing date;
*PCode: UPC 360 is ALPO PC Beef, 361 is ALPO PC Beef Liver, etc. ;
*Pallet_ID:  Pallet ID;


data a2; set a1;
if pcode=. then delete;
proc sort data=a2; by pcode;
proc print data=a2;
run;


*IMPORT PRODUCTDETAILS.XLS from
c:/ageorge/cstat/petfoods/nestlepurina/data as a3;
proc contents data=a3; run;
*PCode:  UPC code ;
*PerCase:  Cans/Pouches per case;
*ProductName:  ALPO PC Beef, Mighty Dog Pounch Variety Pack, etc;
*Size_oz:  size of can/pouch in ounces;

proc sort data=a3; by pcode;
proc print data=a3; run;
*There are 24 UPC;

proc sort data=a2; by pcode;
proc print data=a2; run;

data a4;
merge a2 a3; by pcode;
Units=CasesPP*PerCase;
proc sort data=a4; by pcode mdate;
proc univariate noprint data=a4;
var units;
by pcode mdate;
output out=a4a sum=TotalUnits;
run;
proc print data=a4a; run;
proc print data=a4; run;
proc freq data=a4 ; tables pcode*mdate/out=a4b;
proc print data=a4b  ; run;
data a4c(keep=PCode MDate TotalPallets);
set a4b;
TotalPallets=count;
proc sort data=a4c; by pcode mdate;
run;

proc sort data=a4a; by pcode mdate;
run;

data a4d;
merge a4a a4c; by pcode mdate;
options pageno=1;
proc print data=a4d; run;



libname sd2 'c:/ageorge/cstat/petfoods/nestlepurina/data';

data sd2.NestlePurina;
set a4;
options pageno=1;
title 'SD2.NestlePurina';
proc print data=sd2.NestlePurina;
run;

options pageno=1;
title 'SD2.NestlePurinaSummary';
data sd2.NestlePurinaSummary;
set a4d;
proc print data=sd2.NestlePurinaSummary;
run;




*C:/Ageorge/Cstat/PetFoods/NestlePurina/SASPrograms/Pallets2008Feb1.sas
;

*February 1, 2008;

libname sd2 'c:/ageorge/cstat/petfoods/nestlepurina/data';
title 'SD2.NestlePurine';
proc contents data=sd2.NestlePurina;
run;
*2109 pallets;
*CasesPP City File MDate PCode Pallet_ID PerCase ProductName Size_oz
Units;
*PCode and MDate combination is SKU date;



options pageno=1;
title 'SD2.NestlePurinaSummary';
proc contents data= sd2.NestlePurinaSummary;
```

```
run;
*64 observations - number of SKU dates;
*Mdate PCode TotalPallets TotalUnits;
*NOTE:  TotalPallets is total pallets per SKU date;
*TotalUnits is total units per SKU date;

proc freq data= sd2.NestlePurinaSummary;
tables totalpallets;
run;
*There are 35 SKU dates with 1-25 pallets;
*There are 64-35 or 29 with 26 or more pallets;

data a1; set sd2.NestlePurina;
proc sort data=a1; by pcode mdate;


data a2; set sd2.NestlePurinaSummary;
if totalpallets gt 25 then type='Pallets26_230';
if totalpallets le 25 then type='Pallets1_25';
SKUDate=_N_;
proc sort data=a2; by pcode mdate;
proc freq data=a2; tables type;
proc print data=a2; run;

data a3;
merge a1 a2; by pcode mdate;
proc sort data=a3; by type SKUDate;
options pageno=1;
proc print data=a3;
var SKUDate Pcode Mdate Type TotalPallets CasesPP Percase Units
TotalUnits;
run;

options pageno=1;
proc sort data=a3; by type skudate;
proc freq data=a3 noprint; tables percase/out=a4;
by type skudate;
run;
proc print data=a4; run;


proc freq data=a3; tables casespp;
by type SKUDate;
run;
*For the Pallets 1 to 25 we want to sample 2 cases per pallet;
*For the Pallets 1 to 25 only 2 out of the 357 pallets has exactly 1
case;
*There are 2 to 170 cases per pallet for the other 355 pallets;

*For the Pallets 26 to 230 we want to sample 1 case per pallet;

*We need 500 units for each SKU date;
*and 2 cases per pallet;
data a3a; set a3;
where casespp gt 1 and type='Pallets1_25';
proc sort data=a3a; by skudate;
data a3b; set a3a; by skudate; if first.skudate;
```

```
*Select the first record since all pallets seem to have the same number
of units per case;
SelectUnits=2*PerCase*TotalPallets;
options pageno=1;
proc sort data=a3b; by selectunits;
proc print data=a3b;
var Type Skudate totalpallets percase SelectUnits;
run;
*There are 35 SKU dates for the Pallets 1 to 25 but only 10 have more
than 500 units!!!;



*DETERMINE if all pallets for a given SKU date have the same number of
units per case;
*It appears that all have the same number of units per case;

proc sort data=a3; by skudate; run;
data a5; set a3; by skudate;
if first.skudate;
if type='Pallets26_230' then
  SelectUnits=1*percase*totalpallets;
if type='Pallets1_25' then
      SelectUnits=2*percase*totalpallets;
proc sort data=a5; by selectunits;
proc print data=a5;
var skudate type percase totalpallets selectunits;
run;

*C:/Ageorge/Cstat/PetFoods/NestlePurina/SASPrograms/SelectUnits2008Feb2
.sas;

*February 2, 2008;

libname sd2 'j:/ageorge/cstat/petfoods/nestlepurina/data';
title 'SD2.NestlePurine';
proc contents data=sd2.NestlePurina;
run;
*2109 pallets;
*CasesPP City File MDate PCode Pallet_ID PerCase ProductName Size_oz
Units;
*PCode and MDate combination is SKU date;



options pageno=1;
title 'SD2.NestlePurinaSummary';
proc contents data= sd2.NestlePurinaSummary;
run;
*64 observations - number of SKU dates;
*Mdate PCode TotalPallets TotalUnits;
*NOTE:  TotalPallets is total pallets per SKU date;
*TotalUnits is total units per SKU date;

proc freq data= sd2.NestlePurinaSummary;
tables totalpallets;
run;
```

```
*There are 35 SKU dates with 1-25 pallets;
*There are 64-35 or 29 with 26 or more pallets;

data a1; set sd2.NestlePurina;
Units=CasesPP*PerCase;
proc sort data=a1; by pcode mdate;
proc univariate data=a1;
var units casespp;
run;



data a2; set sd2.NestlePurinaSummary;
if totalpallets gt 25 then type='Pallets26_230';
if totalpallets le 25 then type='Pallets1_25';
SKUDate=_N_;
proc sort data=a2; by pcode mdate;
proc univariate data=a2; var totalunits; run;
proc print data=a2;
run;

data a3;
merge a1 a2; by pcode mdate;
*For the Pallets 1 to 25 we want to sample 2 cases per pallet and want
at least 500 units per SKU date;
*For the Pallets 26 to 230 we want to sample 1 case per pallet;
proc print data=a3; run;
data a300(keep=skudate pcode mdate city pallet_id casespp percase
totalpallets); set a3;
proc sort data=a300; by skudate casespp ;
proc print data=a300; run;

************************************************;
*PALLETS 26 to 230;
*WE WOULD LIKE TO TAKE 1 CASE PER PALLET;
data a30a; set a3;
if type='Pallets26_230';
proc sort data=a30a; by skudate casespp;
run;
*1752 pallets;

data a30b; set a30a; by skudate;
retain casepallet1-casepallet230 i;
array CasePallet(i) CasePallet1 - CasePallet230;
if first.skudate then do i=1 to 230;
      Casepallet=.;
end;
if first.skudate then i=1;
CasePallet=CasesPP;
i=i+1;
if last.skudate then output;
proc print data=a30b;
var skudate totalpallets percase casepallet1-casepallet25;
run;
*29 SKU dates;

data a30c; set a30b; by skudate;
```

```
Retain SelectUnits flag;
array CasePallet(i) CasePallet1 - CasePallet2305;
if first.skudate then do; SelectUnits=0; flag=0; end;
*All pallets seem to have the same number of units per case;
TargetUnits=(1*PerCase*TotalPallets);
if TargetUnits lt 500 then do
      Flag=1;
      CasesNeeded=int(500/(percase*totalpallets))+1;
end;
if TargetUnits ge 500 then SelectUnits=TargetUnits;
proc print data=a30c;
var skudate flag targetunits selectunits CasesNeeded totalpallets
percase casepallet1-casepallet25;
run;

data a30d; set a30c; by skudate;
if flag=1;
array CasePallet(i) CasePallet1 - CasePallet230;
if CasesNeeded lt CasePallet1 then
SelectUnits=CasesNeeded*PerCase*TotalPallets;
if CasesNeeded ge CasePallet1 then do;
      Remaining=500-(CasePallet1*PerCase);
      RevisedCases=int(remaining/(percase*(totalpallets-1)))+1;
      if revisedcases lt casepallet2 then
            selectunits=(CasePallet1*PerCase) +
(revisedcases*percase*(totalpallets-1));
  end;
proc print data=a30d;
var skudate flag selectunits CasesNeeded remaining revisedcases
totalpallets percase casepallet1-casepallet25;
run;


data a30e(keep=SKUdate SelectUnits CasesNeeded PerCase TotalPallets
RevisedCases Casepallet1 CasePallet2); set a30d;
proc print data=a30e;
var SKUDate SelectUnits CasesNeeded PerCase RevisedCases TotalPallets
CasePallet1 CasePallet2;
run;

data a30f(keep=SKUdate SelectUnits CasesNeeded PerCase TotalPallets
Casepallet1 CasePallet2); set a30c; if flag=0;
casesneeded=1;
proc print data=a30f;
var SKUDate SelectUnits CasesNeeded  PerCase TotalPallets CasePallet1
CasePallet2;
run;

Options pageno=1;
title 'Nestle Purina';
data a30g;
set a30e a30f;
proc sort data=a30g; by skudate;
proc print data=a30g;
var SKUDate SelectUnits CasesNeeded PerCase RevisedCases TotalPallets
CasePallet1 CasePallet2;
run;
```

```
proc univariate data=a30g; var selectunits; run;
*************************************************;
*PALLETS 1 to 25;
data a3a; set a3;
if type='Pallets1_25';
proc sort data=a3a; by skudate casespp;
run;
proc print data=a3a; run;
*357 pallets;

data a3b; set a3a; by skudate;
retain casepallet1-casepallet25 i;
array CasePallet(i) CasePallet1 - CasePallet25;
if first.skudate then do i=1 to 25;
      Casepallet=.;
end;
if first.skudate then i=1;
CasePallet=CasesPP;
i=i+1;
if last.skudate then output;
proc print data=a3b;
var skudate totalpallets percase casepallet1-casepallet25;
run;

data a3c; set a3b; by skudate;
Retain SelectUnits flag;
array CasePallet(i) CasePallet1 - CasePallet25;
if first.skudate then do; SelectUnits=0; flag=0; end;
*All pallets seem to have the same number of units per case;
*SITUATION WHERE CASES PER PALLET GE 2;
if CasePallet1=1 then Flag=1;
if CasePallet1 ge 2 then TargetUnits=(2*PerCase*TotalPallets);
if TargetUnits lt 500 then do
      Flag=1;
      CasesNeeded=int(500/(percase*totalpallets))+1;
end;
if TargetUnits ge 500 then SelectUnits=TargetUnits;
proc print data=a3c;
var skudate flag targetunits selectunits CasesNeeded totalpallets
percase casepallet1-casepallet25;
run;

data a3d; set a3c; by skudate;
if flag=1;
array CasePallet(i) CasePallet1 - CasePallet25;
if CasesNeeded le CasePallet1 then
SelectUnits=CasesNeeded*PerCase*TotalPallets;
if CasesNeeded gt CasePallet1 then do;
      Remaining=500-(CasePallet1*PerCase);
      RevisedCases=int(remaining/(percase*(totalpallets-1)))+1;
      if revisedcases lt casepallet2 then
            selectunits=(CasePallet1*PerCase) +
(revisedcases*percase*(totalpallets-1));
  end;
proc print data=a3d;
var skudate flag selectunits CasesNeeded remaining revisedcases
totalpallets percase casepallet1-casepallet25;
```

```
run;


data a3e(keep=SKUdate SelectUnits CasesNeeded PerCase TotalPallets
RevisedCases Casepallet1 CasePallet2); set a3d;
proc print data=a3e;
var SKUDate SelectUnits CasesNeeded PerCase RevisedCases TotalPallets
CasePallet1 CasePallet2;
run;

data a3f(keep=SKUdate SelectUnits CasesNeeded PerCase TotalPallets
Casepallet1 CasePallet2); set a3c; if flag=0;
casesneeded=2;
proc print data=a3f;
var SKUDate SelectUnits CasesNeeded  PerCase TotalPallets CasePallet1
CasePallet2;
run;

Options pageno=1;
title 'Nestle Purina';
data a3g;
set a3e a3f;
proc sort data=a3g; by skudate;
proc print data=a3g;
var SKUDate SelectUnits CasesNeeded PerCase RevisedCases TotalPallets
CasePallet1 CasePallet2;
run;
proc univariate data=a3g; var selectunits; run;


*****************************;
options pageno=1;
data a4;
set a3g a30g;
proc sort data=a4; by skudate;
proc print data=a4;
var SKUDate SelectUnits CasesNeeded PerCase RevisedCases TotalPallets
CasePallet1 CasePallet2;
run;

data a300(keep=skudate productname pcode mdate city pallet_id casespp
percase totalpallets TotalUnits); set a3;
proc sort data=a300; by skudate casespp ;
proc print data=a300; run;

data a400;
merge a300 a4; by skudate;
proc sort data=a400; by skudate city pallet_id;
proc print data=a400; run;
proc univariate data=a400; var casesneeded;
run;

*EXPORT A400;
*Obtain total number of cases needed;
*sum values in excel sheet;
*3121 cases needed;
```

```
data a500; set a400; by skudate;
if first.skudate;
proc print data=a500; run;
options pageno=1;
proc univariate data=a500;
var totalpallets totalunits selectunits; run;
```

Nutro

```
PROC IMPORT OUT= WORK.a1 DATAFILE=
"C:\Ageorge\Cstat\PetFoods\Nutro\Data\NutroWorkingFile.xls" DBMS=EXCEL
   REPLACE; SHEET="Sheet1$"; GETNAMES=YES; MIXED=NO; SCANTEXT=YES;
USEDATE=YES; SCANTIME=YES; RUN;
proc contents data=a1; run; proc print data=a1; run;

data a2; set a1;
   if index(product, '24x') then percase=24;
   if index(product, '12x') then percase=12;
   if index(product, '6x')  then percase=6;
   if index(product, 'x3')  then do size=3; casepp=220; end;
   if index(product, 'x3')*index(product, 'Pouch') then do size=3;
casepp=160; end;
   if index(product, 'x3')*index(product, 'Pch') then do size=3;
casepp=160; end;
   if index(product, 'x85')  then do size=3; casepp=220; end;
   if index(product, 'x85')*index(product, 'Pouch') then do size=3;
casepp=160; end;
   if index(product, 'x85')*index(product, 'Pch') then do size=3;
casepp=160; end;
   if index(product, 'x5.3')    then do size=5.3; casepp=120; end;
   if index(product, 'x150')    then do size=5.3; casepp=120; end;
   if index(product, 'x5.5')    then do size=5.5; casepp=126; end;
   if index(product, 'x156')    then do size=5.5; casepp=126; end;
   if index(product, 'x6')      then do size=6; casepp=126; end;
   if index(product, 'x170')    then do size=6; casepp=126; end;
   if index(product, 'x6.5')    then do size=6.5; casepp=170; end;
   if index(product, 'x13.2')   then do size=13.2; casepp=170; end;
   if index(product, 'x22')     then do size=22; casepp=112; end;
   if index(product, 'x624')    then do size=22; casepp=112; end;
   if index(product, 'x12.5')   then do size=12.5; casepp=170; end;
   if index(product, 'x53')     then do size=5.3; casepp=120; end;
   if index(product, 'x14')     then do size=14; casepp=170; end;
   if index(product, 'x13')     then do size=13; casepp=170; end;
   if index(product, 'x132')    then do size=13.2; casepp=170; end;
   if index(product, '2x12x')   then do percase=24; end;
   if index(product, '3x24x')   then do percase=72; end;
   if index(product, '4x12x')   then do percase=48; end;
   cases=int(units/percase);
   pallets=int(cases/casepp);
proc sort data=a2; by cases;
proc print data=a2; run;
libname xxx 'C:\Ageorge\Cstat\PetFoods\Nutro\Data';
data xxx.SKUDate; set a2;
```

```
proc contents data=xxx.SKUDate; run;



libname xxx 'C:\Ageorge\Cstat\PetFoods\Nutro\Data';
data a1; set xxx.SKUDate;
proc contents data=xxx.SKUDate; run;

data aproduct; set xxx.SKUDate; if units gt 0; drop Aunits;
   unitspercasepallet=pallets*percase;
   if pallets gt 0 then
selectcasesperpallet=int(500/unitspercasepallet)+1;
   if pallets eq 0 then selectcasesperpallet=int(500/percase)+1;
proc print data=aproduct; run;

proc sort data=aproduct; by unitspercasepallet;
proc print data=aproduct; run;

data selected; set aproduct; keep mdate product product_code SKU_Number
selectcasesperpallet;
proc sort data=selected; by productcode;
PROC EXPORT DATA= WORK.selected
   OUTFILE=
"C:\Ageorge\Cstat\PetFoods\RetrievalPlans2008_02_11\NutroSelectionOfCas
es2008_02_11.xls"
   DBMS=EXCEL REPLACE; SHEET="CasesPerPallet"; RUN;

data bproduct; set aproduct;
excess=cases-pallets*casepp;
if excess ge selectcasesperpallet then last=selectcasesperpallet;
   else last=excess;
selectedcases=pallets*selectcasesperpallet + last;
selectedunits=selectedcases*percase;
proc print data=bproduct; run;

proc univariate data=bproduct; var units cases pallets selectedunits
selectedcases;
run;
```